The Water Utility Enterprise

Final - June 1978

Santa Clara Valley Water District

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WATER DISTRICT
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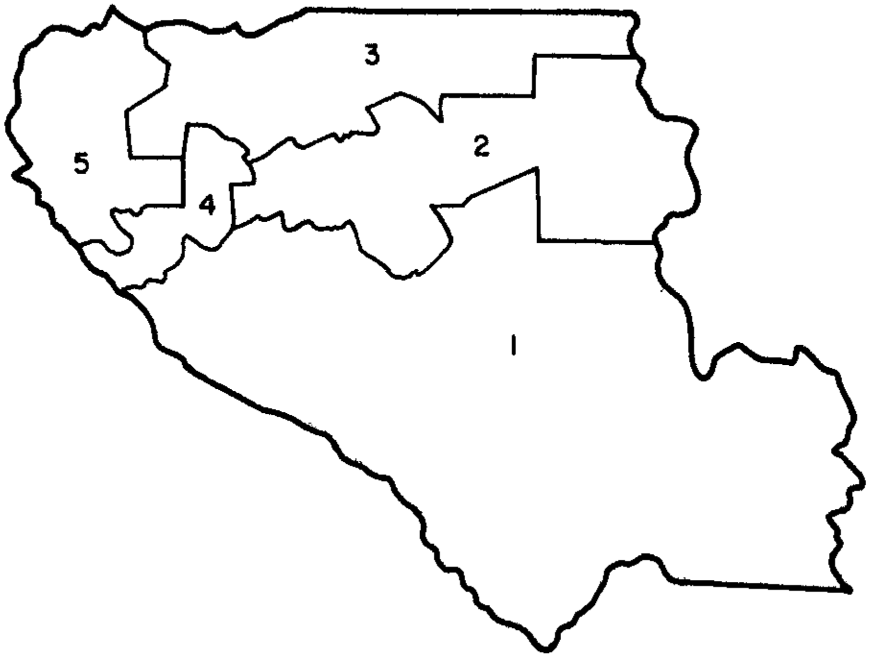

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SAN JOSE, CALIFORNIA 95118

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Santa Clara Valley Water District

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Several events occurred in 1976-77 which have affected the Water Utility. Fiscal year 1976-77 was the second consecutive drought year in Santa Clara County. A voluntary conservation effort, coupled with our groundwater reserves carried us through the drought period. However, the groundwater basins were overdrafted, resulting in a significant drop in the average depth to groundwater. This overdraft used reserve supplies that the District has been putting into storage in the groundwater basin since 1969 in anticipation of a water-short period. Beginning in 1979, annual water needs are projected to exceed normal water supplies until San Felipe water becomes available. Thus our reserves which have been partially depleted must be replaced to provide for future shortages. In May of 1977 the voters of Santa Clara County approved issuance of $56 million of revenue bonds to finance new in-county water distribution facilities, and in June of 1977 the District signed a contract with the Bureau of Reclamation to receive deliveries of San Felipe water.

In the current fiscal year, 1977-78, the Water Utility was also affected by several major events. These included an above normal rainfall which has replaced some of the water that had been overdrafted in the past two drought years, approval for the Bureau of Reclamation to proceed with construction of the revised San Felipe Division facilities although final Congressional authorization of additional funds for the project is still required, and passage on June 6, 1978, of the Jarvis-Gann Initiative. Although the full impact of this initiative has not yet been determined, it could seriously reduce tax revenue to the Water Utility. Lastly, in June 1978, the District sold and delivered $2 million of Measure H revenue bonds to provide a portion of the initial funding needed for design and land acquisition of the Measure H facilities.

As indicated in this report, the District's major expenditure for the next fiscal year will be for the continued operation and maintenance of existing facilities, for wastewater reclamation studies, for purchase of additional land for the enlargement of Calero Reservoir, for the purchase of land for the Maple Avenue Recharge Facility, the East Reservoir, the West Reservoir, the Cross Valley Pipeline and the Almaden Valley Pipeline - Phase II, and for preparation of the engineer's reports on the Cross Valley and Almaden Valley - Phase II Pipelines.

Faced with increasing costs of new facilities and decreased revenue from the past drought years, the District staff recommends a rate increase in the basic user charges for next fiscal year. This recommendation follows several meetings with the Treated Water Contractors and the Water Commission and several public hearings. By working closely with the Treated Water Contractors, it was possible to keep the proposed rate increases to a minimum by postponing construction of three Stage I facilities until after 1990.

The water rates proposed for adoption by the Board of Directors for 1978-79 are $39.00 per acre-foot for Municipal and Industrial water and $9.75 per acre-foot for Agricultural water in Zones W-2, W-3.1, W-3.2, W-3.3, and W-3.5. The Treated Water Surcharge is proposed to remain at $41.00 per acre-foot. No charges are recommended in Zones W-5 and W-6 for next year.

John T. O'Halloran
General Manager

AN AFFIRMATIVE ACTION EMPLOYER

This is the seventh annual report on the status of the Santa Clara Valley Water District's Water Utility Enterprise. The purpose of this report is to provide current information on the following items:

- Present and future water requirements of Santa Clara County
- Present and future water supply available to meet those requirements
- Future capital improvement needs
- Future financial needs of the Water Utility Enterprise including expenditures and a means of financing them
- Water charges to be levied in any zone or zones of the District for the next fiscal year and the proposed water rates associated with those charges.

1976-77 Water Picture...

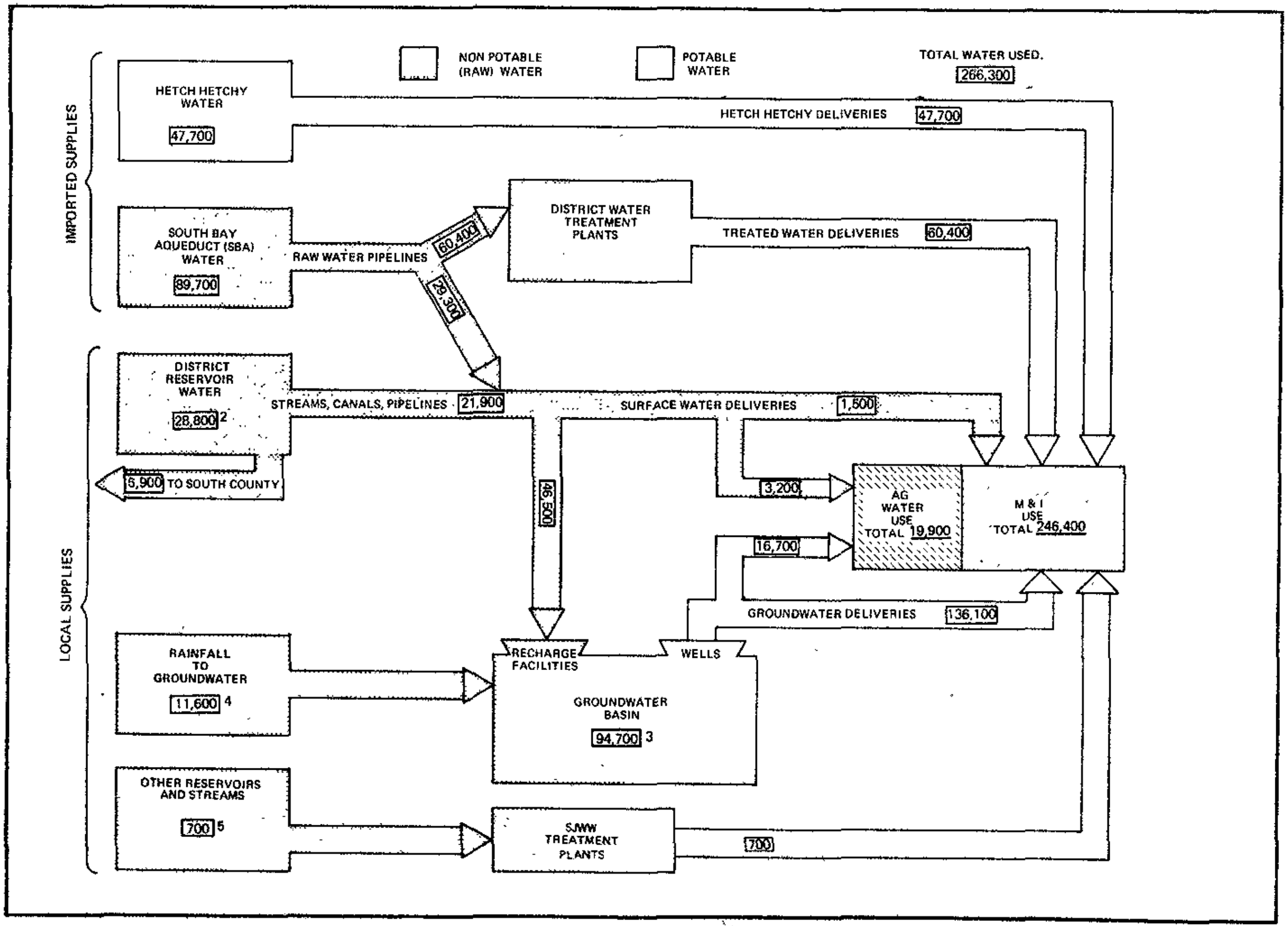
The 1976-77 water supply and water use for North Santa Clara County is summarized in the diagram at the right. This diagram shows the quantities of the various sources of supply and the distribution of use in North Santa Clara County.

For the second consecutive year, rainfall in Santa Clara County was seriously below average; the local reservoir supply declined to abnormally low levels; the groundwater basin experienced a significant decrease in storage; and imported water supplies were reduced substantially.

Also, during this period, municipal and industrial water use for North Santa Clara County decreased by about 13 percent and agricultural water use decreased by about 21 percent in comparison to the previous year. These decreases in water use were a result of a voluntary water conservation program which was requested by the Board of Directors in response to below-average rainfall and drought conditions.

The total water use in 1976-77 was 266,300 acre-feet, while the annual *supply amounted to only 152,100 acre-feet. The resulting deficit of 114,200* acre-feet was met from groundwater storage and from carryover reservoir storage.

WATER SUPPLY AND USE
NORTH SANTA CLARA COUNTY
1976-77
(All values in Acre Feet)[1]


NON POTABLE (RAW) WATER
POTABLE WATER
TOTAL WATER USED. 266,300
IMPORTED SUPPLIES
HETCH HETCHY WATER 47,700
HETCH HETCHY DELIVERIES 47,700
SOUTH BAY AQUEDUCT (SBA) WATER 89,700
RAW WATER PIPELINES
60,400
29,300
DISTRICT WATER TREATMENT PLANTS
TREATED WATER DELIVERIES 60,400
LOCAL SUPPLIES
DISTRICT RESERVOIR WATER 28,800 2
STREAMS, CANALS, PIPELINES 21,900
SURFACE WATER DELIVERIES 1,500
6,900 TO SOUTH COUNTY
46,500
3,200
16,700
AG WATER USE TOTAL 19,900
M & I USE TOTAL 246,400
GROUNDWATER DELIVERIES 136,100
RECHARGE FACILITIES
WELLS
RAINFALL TO GROUNDWATER 11,600 4
GROUNDWATER BASIN 94,700 3
OTHER RESERVOIRS AND STREAMS 700 5
SJWW TREATMENT PLANTS
700

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[1] Water quantities rounded to the nearest 100 feet

[2] Includes 3 100 acre-feet of reservoir inflow and 25 700 acre-feet withdrawn from water in storage from previous years

[3] 94 700 acre-feet were overdrafted from the Santa Clara Valley groundwater basin resulting in a significant drop in the average depth to groundwater

[4] Includes unmeasurable subsurface inflow

[5] From previous year s storage

Water Use...

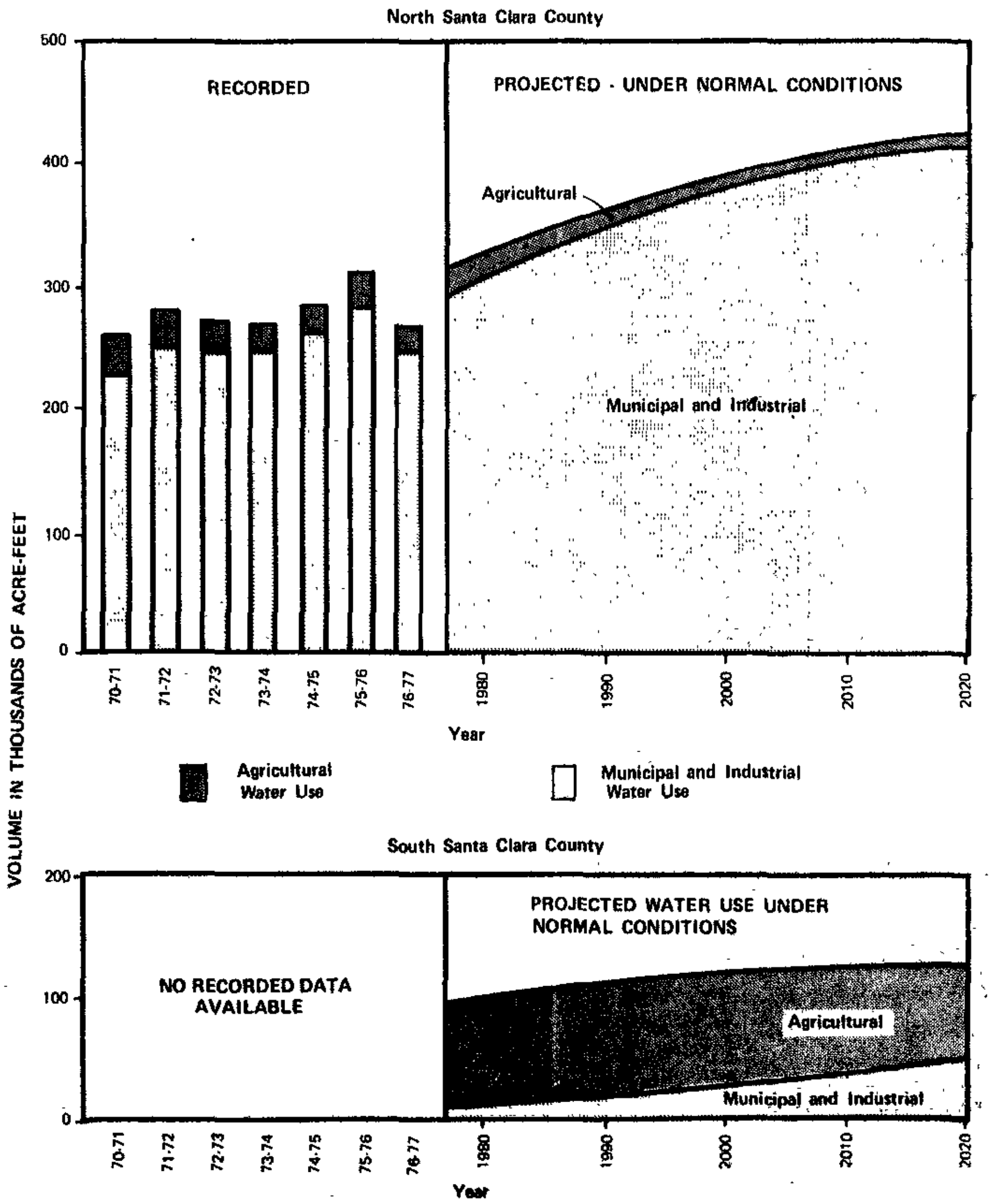
Water use in Santa Clara County is categorized as either agricultural or municipal and industrial. Recorded North County water use for the period 1970-71 through 1976-77 is shown to the right.

Projections of future water use in North Santa Clara County as shown to the right indicate a long-term average increase through 1995 when the rate of increases will begin to gradually decrease. Although agricultural *requirements are gradually* decreasing, the total water demand is expected to reach 420,000 acre-feet per year in 2020 due to increasing industrial and residential requirements.

Water use in South Santa Clara County, the area south of Metcalf Road, has been primarily agricultural and has been met by available local supplies, mainly from groundwater pumping. Since a formalized metering program has not yet been established in the South County, recorded water use data are not available.

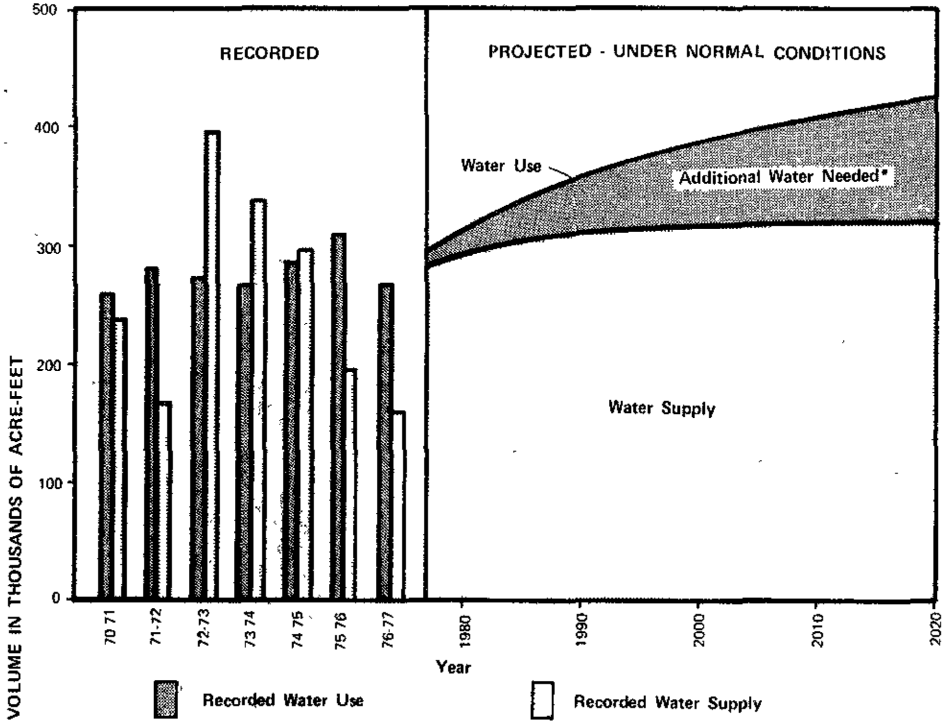
In South Santa Clara County, it is also anticipated that municipal and industrial water requirements will continue to increase while agricultural requirements will begin to decrease. Annual water use in South Santa Clara County is projected to increase to about 125,000 acre-feet by 2020.

RECORDED AND PROJECTED WATER USE

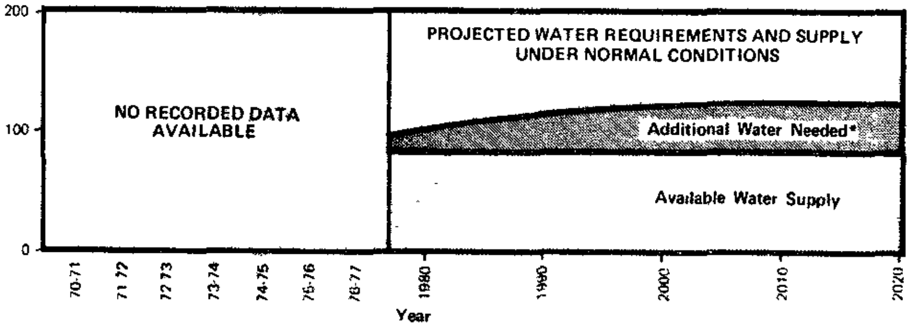


. . .and Water Supply

RECORDED WATER USE AND SUPPLY
AND
PROJECTED WATER REQUIREMENTS AND SUPPLY
North Santa Clara County



South Santa Clara County



*Additional water needed to be supplied from reclaimed wastewater projects and the San Felipe Project.

Present water supplies in North Santa Clara County consist of locally conserved water (reservoirs and groundwater basin) and water imported from the Hetch-Hetchy and South Bay Aqueducts. The water supplies that have been available in North Santa Clara County since 1970-71 are shown to the left.

In 1976-77, the supply of water in Santa Clara County was, for the second consecutive year, substantially lower than average as a result of below average rainfall. Two years of drought conditions have resulted in a substantial drain on the water reserves stored in the groundwater basins.

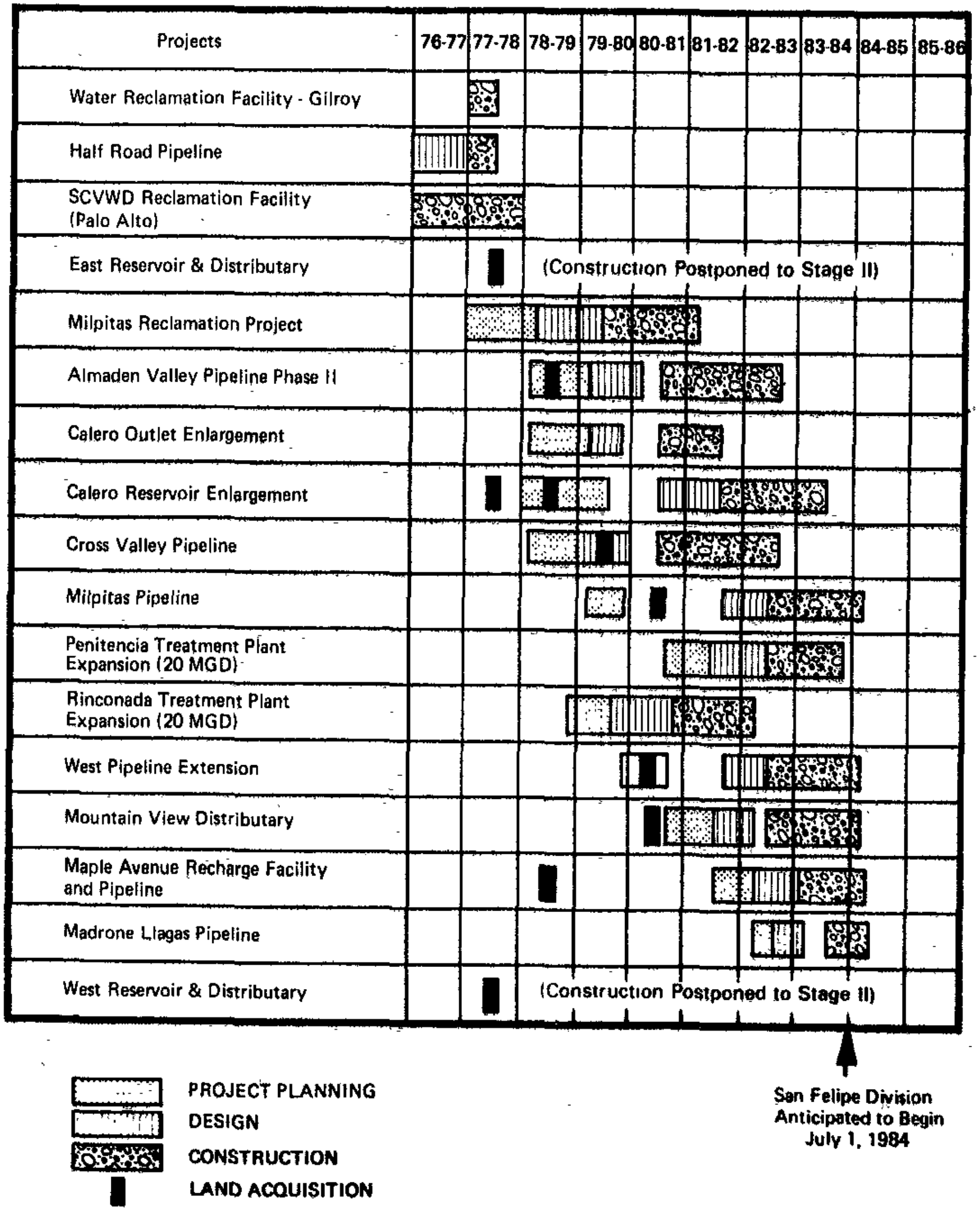
As shown in the graphs on the left, projected average water use will exceed normal supplies on a yearly basis beginning in 1979. As a result, the groundwater basins in the County will function in a water deficit condition until additional supplemental water supplies are available. It is anticipated that these supplemental water supplies will be the San Felipe Project, expected to be available by the mid-1980's, and increased use of reclaimed water.

In-County Water Distribution System. . .

In order to adequately meet the projected water needs of the County and to distribute San Felipe water to the areas of greatest need, it is necessary to *expand the In-County Distribution System* by constructing several major new facilities. Since publication of its Master Plan, the District has updated its projected new facility construction program. Due to a reduction in the Treated Water Contractor's peaking requirements, construction of the East Reservoir, the West Reservoir and the Parallel West Pipeline have been postponed from Stage I to Stage II. The table to the right shows the current schedule for land acquisition, project planning, design and construction of the proposed Stage I facilities.

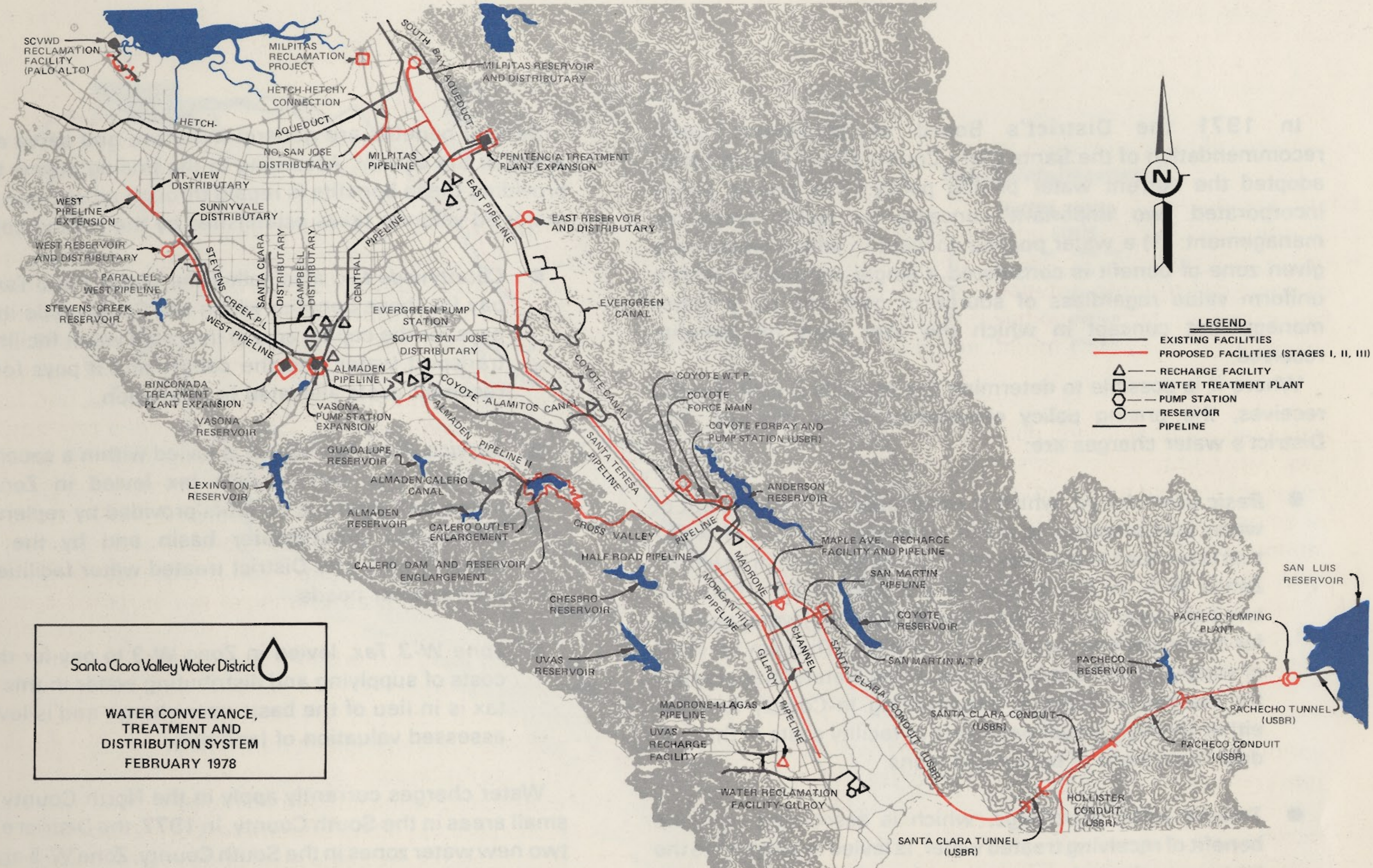
The map on the following page shows the location of the major existing facilities of the In-County Distribution System, the Stage I facilities listed in the proposed construction schedule, and those facilities scheduled for construction in Stage II and Stage III as outlined in the Master Plan.

PROJECTED NEW FACILITY CONSTRUCTION PROGRAM (STAGE I)
FOR THE WATER UTILITY ENTERPRISE
1976-77 THROUGH 1985-86



San Felipe Division
Anticipated to Begin
July 1, 1984

. . . Improvement and Expansion


Santa Clara Valley Water District

WATER CONVEYANCE, TREATMENT AND DISTRIBUTION SYSTEM

FEBRUARY 1978

Sources of Revenue. . .

In 1971 the District's Board of Directors, upon recommendation of the Santa Clara County Water Commission, adopted the current water pricing policy. This pricing policy incorporated two important concepts in water resources management: (1) a water pooling concept in which water for a given zone of benefit is considered a single commodity with a uniform value regardless of source or cost and (2) a water management concept in which the user pays for benefits received.

Where it is possible to determine the benefits a user directly receives, the pricing policy established water charges. The District's water charges are:

- *Basic user charge,* which is associated with the benefit of water consumption, is made on every acre-foot of water that is pumped by the user or delivered by the District within Zones W-2, W-3.1, W-3.2, W-3.3, and W-3.5. There are two basic user rates, one for agricultural (Ag) water and one for municipal and industrial (M&I) water. They pay for costs of supplying and distributing imported water. They also pay for the capital costs of constructing In-County facilities either through actual payments of facility costs or through debt repayment of bonds and loans.

- *Treated water surcharge,* which is associated with the benefit of receiving treated water, is levied in addition to the basic user charge on every acre-foot of treated water sold. This charge is intended to pay primarily for the costs of treating and transporting the water. Revenue from this charge can also be pooled with other sources of revenue under the current pricing policy to cover specific costs.

Several benefits are general in nature and serve all or large areas of the county. According to the pricing policy, the cost of providing these benefits is repaid through ad valorem taxes. The major ad valorem taxes established by the pricing policy are:

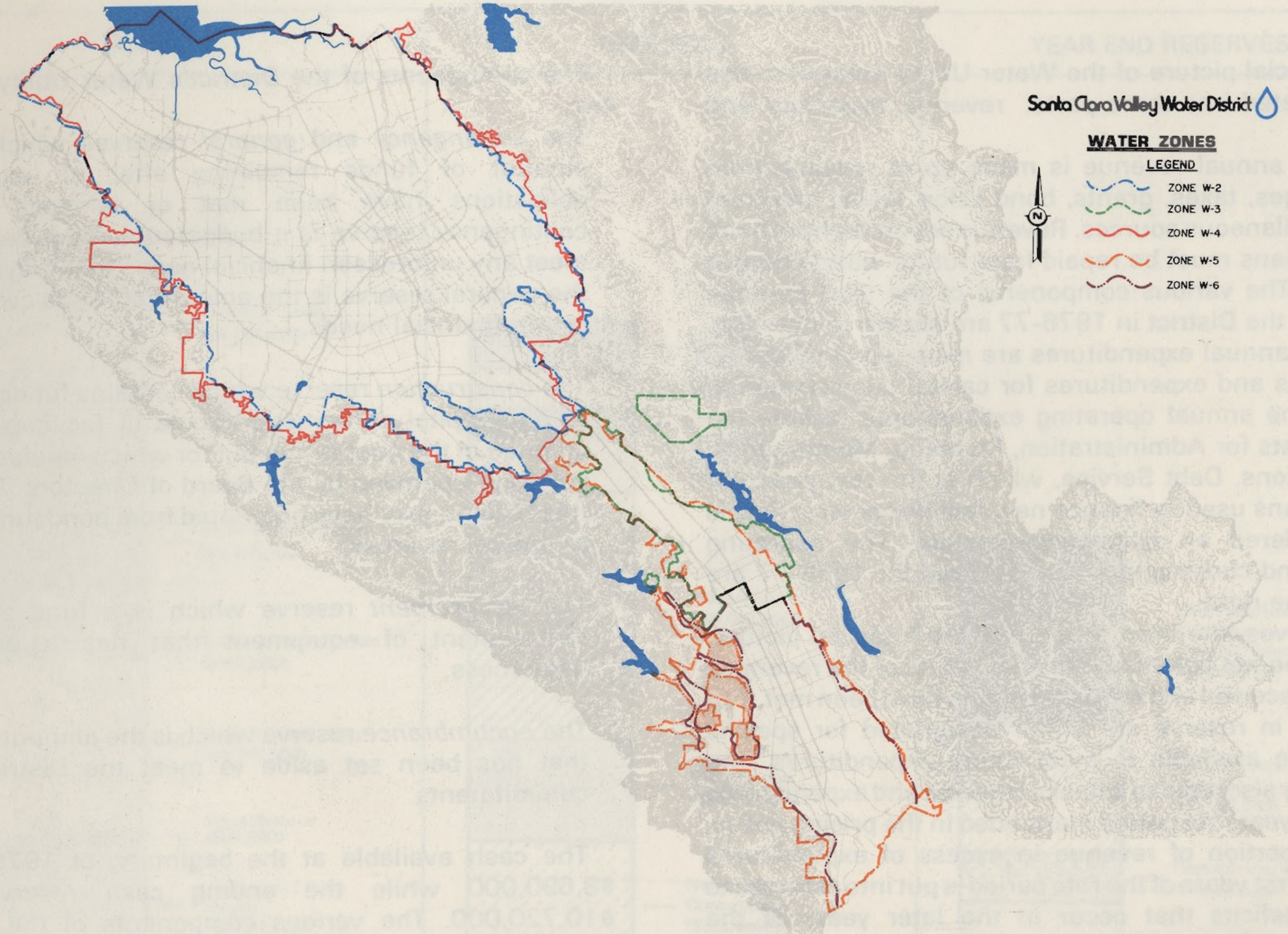
- *Countywide tax,* also called the Water Fund Tax, levied to pay for those benefits which are Countywide in nature. It pays for the capital cost of imported water facilities built to transport water into the county and it pays for the local reservoir costs allocated to recreation.

- *Service Area Tax,* which is levied within a specific zone of benefit. The service area tax levied in Zone W-4 is associated with the benefits provided by replenishing the overdrafted groundwater basin and by the additional capacity built into District treated water facilities to serve future water needs.

- *Zone W-3 Tax,* levied in Zone W-3 to pay for the general costs of supplying and distributing water in this zone. This tax is in lieu of the basic user charge and is levied on the assessed valuation of land only.

Water charges currently apply in the North County and some small areas in the South County. In 1977, the District established two new water zones in the South County, Zone W-5 and Zone W-6. These two zones were established for registration of wells for groundwater management and to allocate costs of the San Felipe Division in future years. These new zones, as well as the previously existing water zones, are shown in the map to the right.

. . .Related to Costs of Providing Benefits



The Financial Picture. . .

The financial picture of the Water Utility Enterprise has been separated into three parts: revenue, expenses, and reserves.

The total annual revenue is made up of revenue from water charges, taxes, grants, bond sales, loans, and from other miscellaneous sources. Revenue advanced from bond sales and loans must be repaid from future water charges and taxes. The various components of the total revenue received by the District in 1976-77 are shown to the right.

The total annual expenditures are made up of operating expenditures and expenditures for capital construction of facilities. The annual operating expenditures include the program costs for Administration, Planning, Maintenance, and Operations. Debt Service, which is the repayment of bonds or loans used to finance new facility construction, is also considered an operating expense. The operating expenses and construction expenditures for 1976-77 are shown to the right.

The reserves, the third element of the financial picture, consist of the net balance of funds after all of the revenues have been received and all expenditures have been met. The funds held in reserve are either designated for specific items or are available to meet future expenditures. The reserves are also used to balance revenue and expenditures for the five-year rate period mentioned in the pricing policy. That is, a portion of revenue in excess of expenditures during the first years of the rate period is put into reserves to meet the deficits that occur in the later years of the period.

The components of the District's Water Utility reserves are:

The *contingency* and *general* reserves which are the amount of funds remaining after all expenditure obligations have been met or allowed for. The contingency reserve is a budgeted amount set aside to meet any unforeseen financial needs that may arise and the general reserve is the amount of funds available for future financial needs.

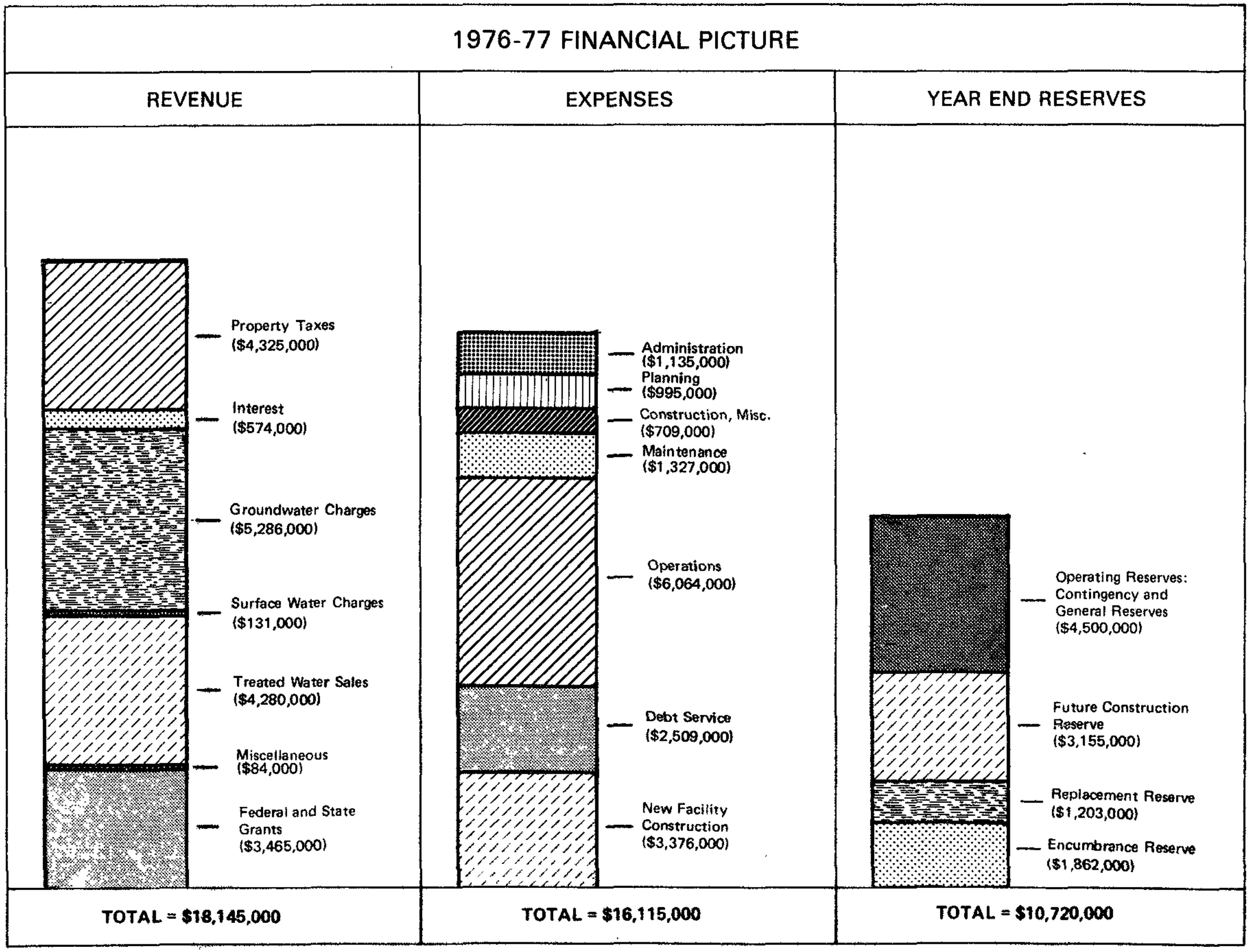
The *construction* reserve which contains funds set aside to pay capital construction costs of facilities that are planned in the near future but for which monies have not yet been approved by the Board of Directors. Monies in this reserve may have originated from bond funds, loans, or annual revenues.

The *replacement* reserve which is a fund set up for replacement of equipment that has a predictable usefulness.

The *encumbrance* reserve which is the amount of money that has been set aside to meet the District's legal commitments.

The cash available at the beginning of 1976-77 was $8,690,000 while the ending cash reserves were $10,720,000. The various components of the 1976-77 year-end reserves are shown at the right.

. . .of the Water Utility Enterprise



Financial Estimates...

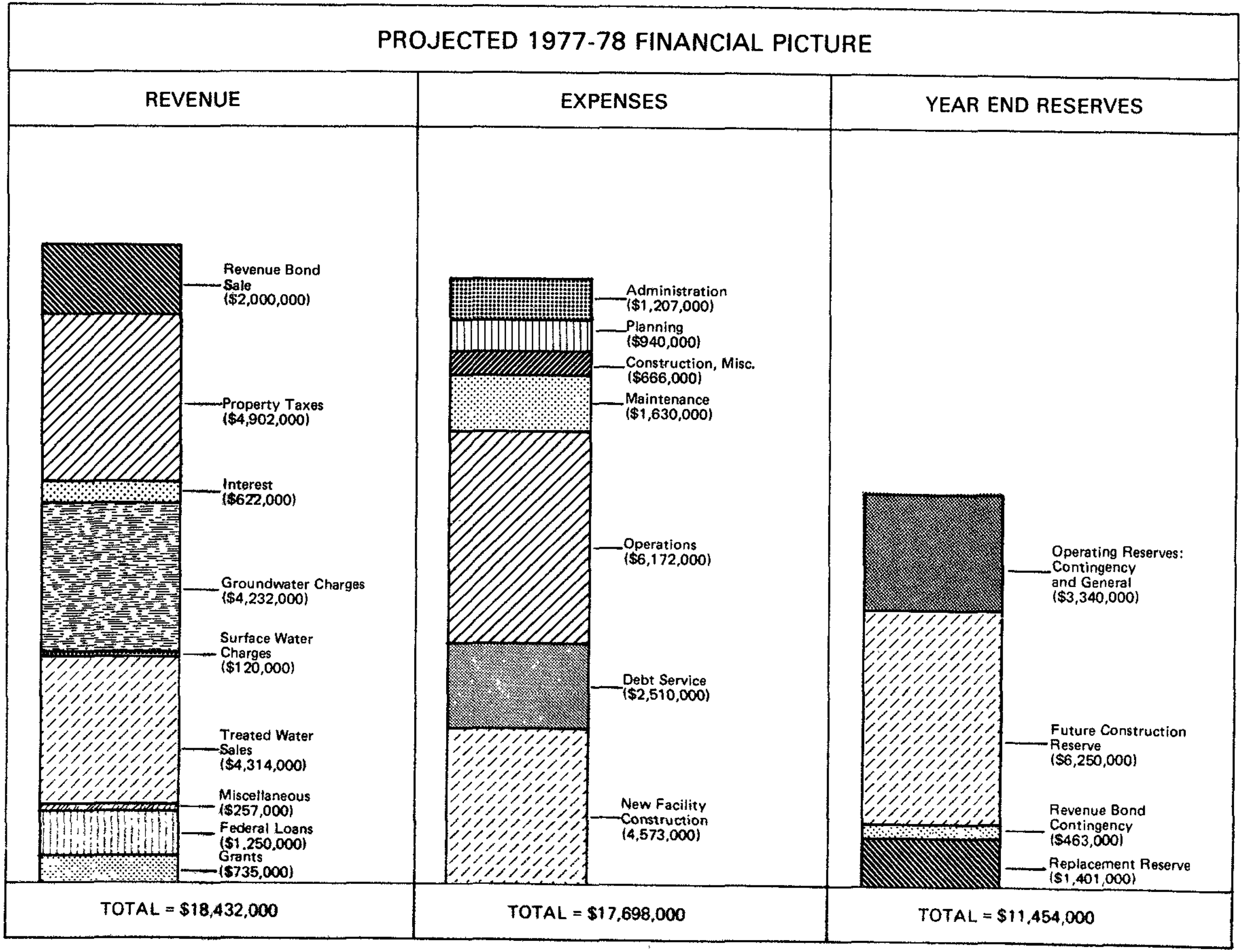
Estimated revenue, expenditures, and year-end reserves for the current fiscal year are shown in the graph on the opposite page.

The 1977-78 projected revenue from taxes is based on ad valorem tax rates of $0.07 for the Water Fund, $0.018 in Zone W-4, and $0.438 (on land only) in Zone W-3. The current ad valorem tax revenue is about $218,000 greater than was projected last year. The 1977-78 revenue from water charges and water sales is based on basic user charges of $34/acre-foot for municipal and industrial water and $8.50/acre-foot for agricultural water. The treated water surcharge rate is $41/acre-foot. The current revenue from water charges and sales is about $875,000 less than was projected for a normal water year. This decrease in water revenue is a result of the water rationing measures which were initiated by the District Board of Directors in response to the drought which occurred in 1976 and 1977. In June 1978, the District executed its first bond sale for $2,000,000. These funds, in conjunction with reserves, will provide financing to begin project planning, land acquisition and design of the In-County Distribution System facilities.

Major expenditures and encumbrances for new facility construction in 1977-78 are for the Wastewater Reclamation Facility at Palo Alto ($0.95 million, 87.5% refundable from State and Federal grants), for the purchase of land for the raising of Calero Dam and Reservoir ($0.98 million) and for the construction of the Wastewater Reclamation Facility at Gilroy ($1.93 million). For construction of the facility at Gilroy, the District, the City of Gilroy and the SSCVWCD entered into an agreement and secured a $1.25 million interest-free federal loan to be repaid over 20 years. The District's share of the total project cost is 37.5% with the City of Gilroy share and the SSCVWCD share at 37.5% and 25% respectively.

The revenue bond sale requires the District to set aside a contingency reserve of one year's bond repayment. Proceeds from the bond issue not spent on capital improvements are set aside and are included in the reserves for future construction of projects.

. . .for the Current Year
(1977-1978)



Financial Projections. . .

Delays in the construction schedule, general inflation of costs, recent reanalysis of the proposed costs of the In-County Distribution facilities, and the addition of the Calero Dam and Reservoir Enlargement Project to the Construction Program have all resulted in a higher estimate of future capital construction costs. While revenue bond funds and potential loans and grants from federal and state sources will finance the major portion of these costs, several facilities will have to be financed from cash reserves generated from water charges. Current water rates are inadequate to provide the necessary financing. After several meetings with the Treated Water Contractors and the Water Commission and after several public hearings, the District staff recommends increased water rates for 1978-79. The proposed rates for the basic user charges are $39.00 per acre-foot for Municipal and Industrial water and $9.75 per acre-foot for Agricultural water. The Treated Water Surcharge is proposed to remain at $41.00 per acre-foot.

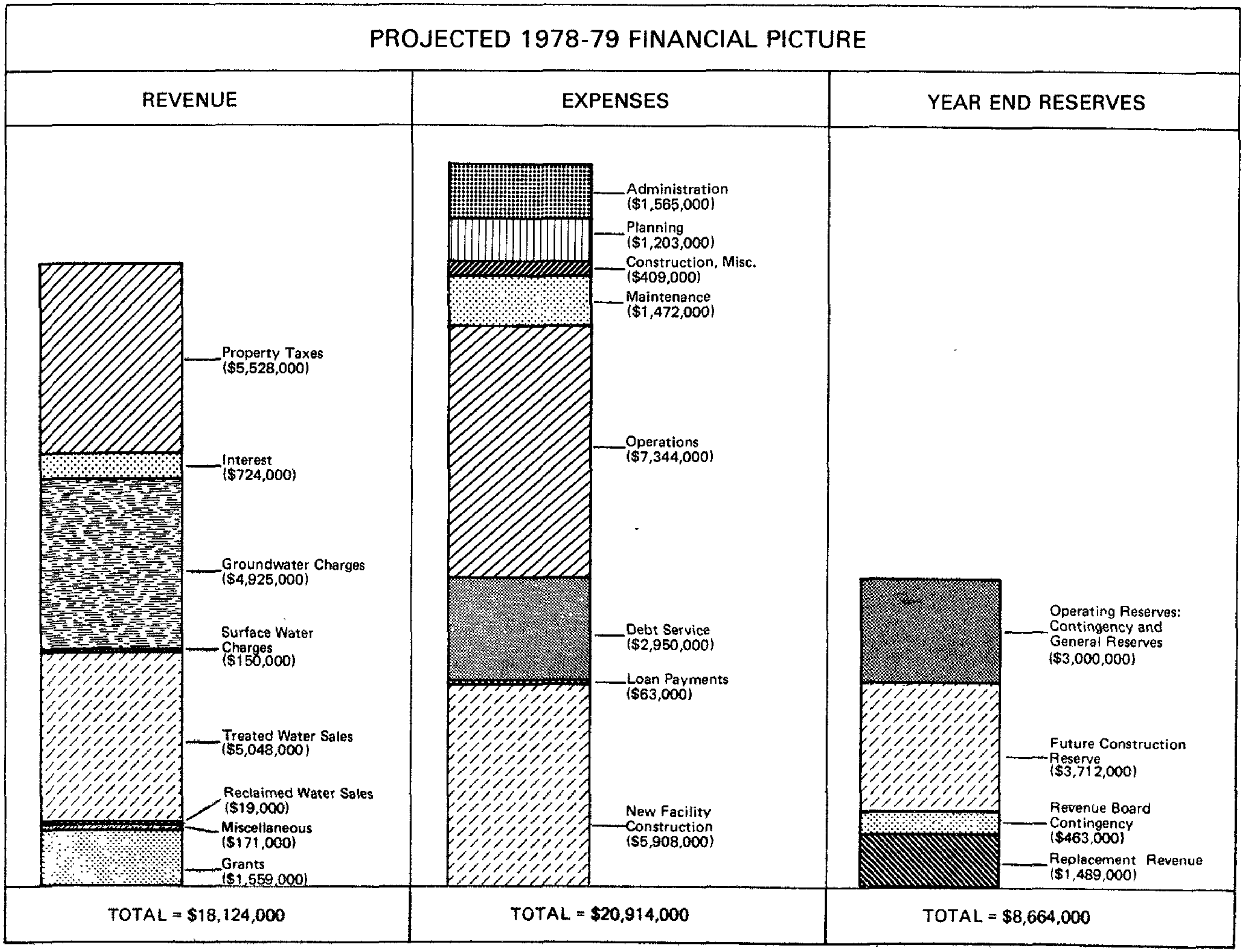
Projected 1978-79 revenue, expenditures and year-end reserves are shown on the opposite page. These projections have not been adjusted to reflect changes that are likely to occur as a result of the Jarvis-Gann Initiative because of the many unknowns still to be determined.

The revenue shown is based on the proposed water charge rates and on the existing tax rates. The revenue from grants represents reimbursement for construction costs of the SCVWD Reclamation Plant at Palo Alto ($1.40 million) and for planning costs of the Milpitas/North San Jose Reclamation Project ($0.16 million).

The projected expenditures in planning include the preparation of the engineer's reports and environmental documents ($0.47 million) on the Cross Valley Pipeline, the Almaden Valley Pipeline - Phase II, the Calero Outlet Enlargement, and the raising of Calero Dam and Reservoir. Major expenditures for new facilities anticipated in 1978-79 are for the purchase of land. Specifically, land purchases are anticipated for the East Reservoir ($0.56 million), the West Reservoir ($0.48 million) and the Maple Avenue Recharge Facility ($0.37 million). In addition, land acquisition is planned for the enlargement of Calero Dam and Reservoir ($0.73 million), the Cross Valley Pipeline ($2.20 million), and the Almaden Valley Pipeline - Phase II ($0.49 million). Completion of the SCVWD Reclamation Facility at Palo Alto is anticipated with construction of the proposed well field and distribution pipeline ($1.08 million).

The year-end cash reserves include $3.71 million for future construction of in-county distribution facilities.

. . .for the Next Fiscal Year
(1978-1979)



Recommended Water Charges for 1978-79...

Water charges recommended for the 1978-79 fiscal year in Zones W-2, W-3.1, W-3.2, W-3.3 and W-3.5 are summarized in the table below. No charges are proposed for Zones W-5 and W-6.

RECOMMENDED WATER CHARGES
FOR
FISCAL YEAR 1978-79

Basic User Water Charges:	
Agricultural Water (Ag.)	$ 9.75/Acre-Foot
Nonagricultural Water (M&I)	$39.00/Acre-Foot
Treated Water Surcharge	$41.00/Acre-Foot